APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/839,955	04/19/2001	Gilat Aviely	5079P007	4510

26263	7590	04/11/2006

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EXAMINER
RYMAN, DANIEL J

ART UNIT	PAPER NUMBER
2616	

DATE MAILED: 04/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/839,955	AVIELY ET AL.
	Examiner	Art Unit
	Daniel J. Ryman	2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>23 March 2006</u>.

2a)☐ This action is **FINAL**.　　　　2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-61</u> is/are pending in the application.

　　4a) Of the above claim(s) <u>21-58</u> is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-20 and 59-61</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

　　Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

　　Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

　　a)☐ All　b)☐ Some * c)☐ None of:

　　　1.☐ Certified copies of the priority documents have been received.

　　　2.☐ Certified copies of the priority documents have been received in Application No. _____.

　　　3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

　　* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Response to Arguments

1.   Examiner acknowledges Applicant's filing of an RCE on 23 March 2006.

2.   Applicant's arguments filed 3/23/2006 have been fully considered but they are not persuasive. On page 12 of the Response, Applicant asserts that Itakura fails to disclose a retrieval rate "set according to an estimated time between desired arrival times of two successive packets of the data." Examiner, respectfully, disagrees. Itakura discloses that the Output Rate "is controlled in accordance with the extracted interval data" (col. 7, lines 25-28). Specifically, Itakura sets the Output Rate to be 1/T where T is the interval (col. 16, lines 43 and 64-67). As such, Itakura discloses that the "retrieval rate" (Output Rate) is set "according to an estimated time between desired arrival times of two successive packets of the data" (interval data).

3.   For the above reasons, Examiner maintains that claims 1-20 and 59-61 are obvious in view of the cited prior art.

Claim Rejections - 35 USC § 103

4.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5.   Claims 1-17 and 59-61 are rejected under 35 U.S.C. 103(a) as being unpatentable over Itakura et al. (USPN 5,901,149), of record, in view of Rusu et al. (USPN 6,141,323), of record.

6.   Regarding claims 1, 17, and 59, Itakura discloses a system and method for compensating for timing violations of time restricted data being transmitted over a bursty communication

channel (col. 2, lines 17-31), the system comprising: a retriever (ref. 11), coupled to a buffer (ref. 41), for retrieving the time restricted data from the buffer, at a retrieval rate (read-out rate) (col. 4, lines 1-21); a buffer level monitor (ref. 43), coupled to the buffer, for monitoring the level of time restricted data in the buffer at a monitoring rate (col. 4, lines 1-21); and a controller (ref. 55) coupled to the buffer level monitor and to the retriever, for setting the retrieval rate according to an estimated time between desired arrival times of two successive packets of the time restricted data (col. 4, lines 1-21; col. 7, lines 20-31; and col. 15, lines 1-13).

Itakura does not expressly disclose that the controller sets the monitoring rate. Rusu teaches, in a system for adjusting queue length, obtaining queue increase/decrease information at a programmable time interval (col. 8, lines 49-52; col. 8, lines 3-6; and col. 9, lines 1-4) in order to allow a system to compensate and adapt to different rates by shortening (or lengthening) the time interval to gain more frequent (or less frequent) samples to permit quicker adjustments (or slower adjustments) (col. 7, lines 60-64). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to have the controller set the monitoring rate in order to allow the controller to adjust the monitoring rate as appropriate.

7.   Regarding claim 2, Itakura in view of Rusu discloses that the controller sets the retrieval rate according to the level of the time-restricted data in the buffer (Itakura: col. 4, lines 1-21). Itakura in view of Rusu suggests that the controller sets the monitoring rate according to the level of the time-restricted data in the buffer (Itakura: col. 4, lines 1-21 and Rusu: col. 7, lines 60-64 and col. 8, lines 49-52).

8.   Regarding claim 3, Itakura in view of Rusu discloses that the retrieval rate is increased

when the difference between the level of the time restricted data in the buffer and a predefined

threshold level exceeds a predefined difference threshold (Itakura: col. 4, lines 1-21).

9.   Regarding claim 4, Itakura in view of Rusu discloses that the retrieval rate being

responsive to the difference between the level of the time restricted data in the buffer and a

predefined threshold level (Itakura: col. 4, lines 1-21).

10.   Regarding claim 5, Itakura in view of Rusu discloses that the retrieval rate is responsive

to a difference between the buffer behavior pattern to a predefined buffer behavior pattern

(Itakura: col. 4, lines 1-21). Itakura in view of Rusu suggests that the monitoring rate is

responsive to a difference between the buffer behavior pattern to a predefined buffer behavior

pattern (Itakura: col. 4, lines 1-21 and Rusu: col. 7, lines 60-64 and col. 8, lines 49-52).

11.   Regarding claim 6, Itakura in view of Rusu suggests that the retrieval rate and the

monitoring rate are responsive to low frequency changes in the level of time-restricted data in the

buffer (Itakura: col. 4, lines 1-21 and Rusu: col. 7, lines 60-64 and col. 8, lines 49-52).

12.   Regarding claim 7, Itakura in view of Rusu suggests that the controller is configured to

change the monitoring rate and the retrieval rate to compensate for jitter included in the

time-restricted data (Itakura: col. 2, lines 17-31 and col. 4, lines 1-21 and Rusu: col. 7, lines 60-

64 and col. 8, lines 49-52).

13.   Regarding claim 8, Itakura in view of Rusu discloses that the removal interval is

responsive to a current bit rate of the time-restricted data (Itakura: col. 4, lines 1-21).

14.   Regarding claim 9, Itakura in view of Rusu suggests that the controller sets the monitoring rate in response to the level of jitter included in the time restricted data (Itakura: col. 2, lines 17-31 and col. 4, lines 1-21 and Rusu: col. 7, lines 60-64 and col. 8, lines 49-52).

15.   Regarding claim 10, Itakura in view of Rusu suggests that the monitoring rate and the retrieval rate are set in view of a statistical analysis of the level of time restricted data in the buffer (Itakura: col. 2, lines 17-31 and col. 4, lines 1-21 and Rusu: col. 7, lines 60-64; col. 8, lines 3-6; and col. 8, lines 49-52) where Rusu teaches changing the monitoring rate according to current and historical conditions (col. 8, lines 3-6) which suggests using statistical analyses.

16.   Regarding claim 11, Itakura in view of Rusu discloses that the controller is configured to set the monitoring rate in response to changes in the bit rate of arriving time-restricted data (Rusu: col. 7, lines 60-64 and col. 8, lines 49-52).

17.   Regarding claim 12, Itakura in view of Rusu discloses that the controller modifies the retrieval rate, when said controller detects that the behavior of said current level exceeds a given behavior and adjusts said retrieval rate accordingly (Itakura: col. 4, lines 1-21).

18.   Regarding claim 13, Itakura in view of Rusu does not expressly disclose that said buffer is a first in first out buffer; however, Examiner takes official notice that FIFO buffers are well known in the art. Thus, it would have been obvious to use a FIFO buffer since these buffers are well known in the art.

19.   Regarding claim 14, Itakura in view of Rusu discloses that the time restricted data is in a form of MPEG Transport packet (Itakura: col. 1, lines 6-15).

20.   Regarding claim 15, Itakura in view of Rusu does not expressly disclose that the type of said bursty communication channel is selected from the list consisting of: Ethernet; Fast

Ethernet; Gigabit Ethernet; TCP/IP; RTP; and UDP/IP. However, Examiner takes official notice

that TCP/IP is a well-known protocol. Thus, it would have been obvious to one of ordinary skill

in the art at the time of the invention to use TCP/IP since it is a well-known protocol.

21.   Regarding claim 16, Itakura in view of Rusu discloses that the timing violations are

selected from the group consisting of: delay; and jitter (Itakura: col. 2, lines 17-31).

22.   Regarding claim 60, Itakura in view of Rusu discloses a step of setting said monitoring

time after said step of increasing, after said step of decreasing, and when said buffer level is

equal to said threshold (Itakura: col. 2, lines 17-31 and col. 4, lines 1-21 and Rusu: col. 7, lines

60-64 and col. 8, lines 49-52) where the monitoring level is changed according to an interval

such that these changes will occur after said step of increasing, after said step of decreasing, and

when said buffer level is equal to said threshold since the retrieval rate will constantly be

changing.

23.   Regarding claim 61, Itakura in view of Rusu implicitly discloses a preliminary step of

detecting if said buffer level exceeds a predetermined zero level (Itakura: col. 2, lines 17-31 and

col. 4, lines 1-21 and Rusu: col. 7, lines 60-64 and col. 8, lines 49-52) where the system

implicitly checks to determine if there is any data in the buffer before it makes a determination if

the amount of data in the buffer exceeds a threshold.

24.   Claims 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Itakura et

al. (USPN 5,901,149), of record, in view of Rusu et al. (USPN 6,141,323), of record, as applied

to claim 15 above, and further in view of Applicant's admitted prior art.

25.   Regarding claim 18, Itakura in view of Rusu does not expressly disclose at least one

entity selected from the group consisting of a decapsulator, connected to said buffer, wherein

said decapsulator extracts said time restricted data from bursty channel format packets and wherein said decapsulator provides said time restricted data to said buffer; a receiving end communication interface, connected to said decapsulator, wherein said receiving end communication interface receives said bursty channel format packets from said bursty communication channel, and wherein said receiving end communication interface provides said bursty channel format packets to said decapsulator; a transmitting end communication interface, for transmitting said bursty channel format packets to said receiving end communication interface over said bursty communication channel; an encapsulator, connected to said transmitting end communication interface, for encapsulating said time restricted data in said bursty channel format packets; a time restricted data source, connected to said encapsulator; and a communication unit, coupled to the retriever. However, Applicant discloses as prior art that it is well known to encapsulate and decapsulate packets in order to transport the MPEG packets over a network (para. 2 to para. 11). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to have at least one entity selected from the group consisting of a decapsulator, connected to said buffer, wherein said decapsulator extracts said time restricted data from bursty channel format packets and wherein said decapsulator provides said time restricted data to said buffer; a receiving end communication interface, connected to said decapsulator, wherein said receiving end communication interface receives said bursty channel format packets from said bursty communication channel, and wherein said receiving end communication interface provides said bursty channel format packets to said decapsulator; a transmitting end communication interface, for transmitting said bursty channel format packets to said receiving end communication interface over said bursty communication channel; an

encapsulator, connected to said transmitting end communication interface, for encapsulating said time restricted data in said bursty channel format packets; a time restricted data source, connected to said encapsulator; and a communication unit, coupled to the retriever in order to transport MPEG packets over a network.

26.   Regarding claim 19, Itakura in view of Rusu in further view of Applicant discloses that said retriever is further connected to a communication unit selected from the list consisting of: a decoder, for decoding said time restricted data; a transmitter, for transmitting said time restricted data to a remote receiver; and a multiplexer, for multiplexing said time restricted data (Applicant: para. 2 to para. 11).

27.   Regarding claim 20, Itakura in view of Rusu in further view of Applicant discloses that said multiplexer is further connected to said transmitter, and wherein said transmitter transmits multiplexed time restricted data received from said multiplexer (Itakura: col. 1, lines 19-32 and Applicant: para. 2 to para. 11).

Conclusion

28.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Powell (USPN 6,111,878) see col. 1, lines 60-65; col. 2, lines 15-22; and col. 2, lines 33-41 which discloses varying the parameters of a filter according to the fill level of a buffer in order to avoid buffer overflow or underflow.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J. Ryman whose telephone number is (571)272-3152. The examiner can normally be reached on Mon.-Fri. 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Huy Vu can be reached on (571)272-3155. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Daniel J. Ryman
Examiner
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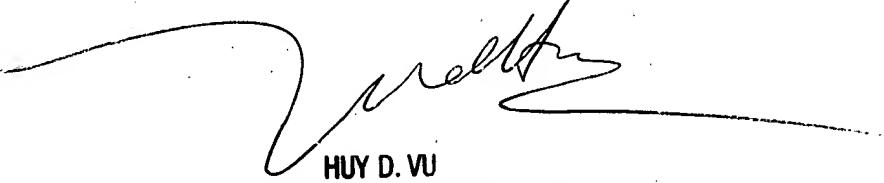
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